-10/541003

T/PTO 28 JUN 2005 LICATION PUBLISHED UNDER THE PATENT OPERATION TREATY (PCT)

(12) INTERNATIONAL (19) World Intellectual Property

Organization International Bureau

1 CORTA BILLEGOR DE CORTA DERIA BORIA BORIA BORIA PER EL DE CORTO BORIA BORIA BORIA DURA DECENDA DOCUMENTA DECE

(43) International Publication Date 15 July 2004 (15.07.2004)

PCT

(10) International Publication Number WO 2004/058452 A3

(51) International Patent Classification7: 1/00, B24B 13/00, 49/12

B24C 1/08,

(21) International Application Number:

PCT/NL2003/000946

(22) International Filing Date:

30 December 2003 (30.12.2003)

(25) Filing Language:

Dutch

(26) Publication Language:

English

(30) Priority Data: 1022293

31 December 2002 (31.12.2002)

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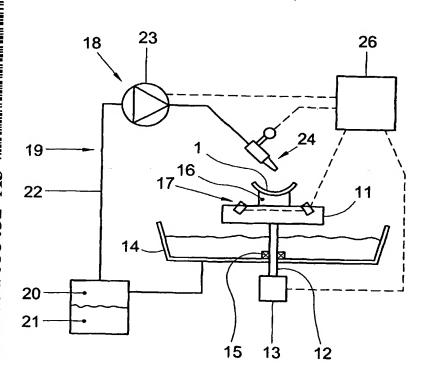
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- (81) Designated States (national): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, EG, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR MANUFACTURING OR WORKING OPTICAL ELEMENTS AND/OR OPTI-CAL FORMING ELEMENTS, AND SUCH ELEMENT.



(57) Abstract: The invention relates to an apparatus for forming or working optical elements and/or optical forming elements (1) comprising a working apparatus (18) for forming surfaces of form parts by machining or an abrasive technique, wherein at least one measuring device (17) is provided for measuring changes in form and/or surface roughness of said surface when said surface is being worked and, on the basis thereof controlling said working apparatus (18).

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ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report: 2 December 2004

Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

ional Application No PC. 03/00946

A CLASSIFICATION OF SUBJECT MATTER IPC 7 B24C1/08 B24C1/00

B24B13/00

B24B49/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 B24C B24B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

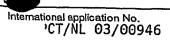
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
x	US 6 301 009 B1 (TINKER FLEMMING) 9 October 2001 (2001-10-09)	1-4,8-16
Y A	the whole document	21-23 5-7
A Y	WO 99/26764 A (TNO ; FAHNLE OLIVER WOLFGANG (NL)) 3 June 1999 (1999-06-03)	3,4,8,9, 16
•	the whole document	21-23
A	US 5 573 446 A (DEY THOMAS W ET AL) 12 November 1996 (1996-11-12) the whole document	1-16, 21-23
A -	US 5 700 181 A (ARMSTRONG NEIL DEAN ET AL) 23 December 1997 (1997-12-23) the whole document	1-16, 21-23
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Further documents are listed in the continuation of box C.	X Patent family members are listed in annex.
 Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed 	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed Invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
Date of the actual completion of the international search 22 April 2004	Date of mailing of the International search report 0 8. 09. 2004
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer De Backer, T



International Application No PC 03/00946

CiContinue	tion) DOCUMENTS CONSIDERED TO BE RELEVANT	PC 03/00946
_ `	Citation of document, with indication, where appropriate, of the relevant passages	lo.
arefold -	Control of Coountering with moleculor, where appropriate, of the relevant passages	Relevant to claim No.
	GB 865 132 A (ABRASIVE DEV) 12 April 1961 (1961-04-12) the whole document	1-16, 21-23
	DE 101 13 599 A (FISBA OPTIK AG ST GALLEN) 2 October 2002 (2002-10-02) the whole document	1-16, 21-23
	PATENT ABSTRACTS OF JAPAN vol. 018, no. 130 (M-1570), 3 March 1994 (1994-03-03) & JP 05 318287 A (OKUMA MACH WORKS LTD), 3 December 1993 (1993-12-03) abstract	1-16, 21-23
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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
see additional sheet
As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-16, 21-23
Remark on Protest The additional search fees were accompanied by the applicant's protest. No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-16, 21-23

1. claims:1-4,8,14-16

An apparatus and a method for forming optical elements or optical forming elements with a working apparatus and a measuring device for measuring when said surface is being worked and for controlling the working apparatus where the working apparatus is provided with at least one jet nozzle from which, under pressure a blasting agent be dispensed. 2. claims: 5-7

An apparatus for forming optical elements or optical forming elements with a working apparatus and a measuring device for measuring when said surface is being worked and for controlling the working apparatus where in the holder at least one optical element is included while one or more light sources and light receivers are arranged below the holder.

3. claims: 10-13

An apparatus for forming optical elements or optical forming elements with a working apparatus and a measuring device for measuring when said surface is being worked and for controlling the working apparatus wherein the apparatus is provided with means for insulating the measuring device against vibrations. 4. claims: 21-23

A method for forming optical elements or optical forming elements where the momentaneously worked surface is measured and the working apparatus is controlled on the basis of the measured thickness, and wherein the optical element is a contact lens.

2. claims: 17-20, 24-27

claims: 17-20,24-27 An optical element, a mold for an optical element as well as a method for forming or working optical elements or optical forming elements wherein a recess and/or an elevation or a protuberance or a finishing layer with a locally removed part is formed.



International Application No PCT 03/00946

Patent document cited in search report US 6301009 B	Publication date 1 09-10-2001	mem	nt family nber(s)	Publication date
US 6301009 B	1 09-10-2001	DE 10		
		FR 2	855455 A1 771666 A1 262858 A	02-06-1999 04-06-1999 28-09-1999
WO 9926764 A	03-06-1999	AT 2 AU 12 DE 698 DE 698 EP 10 JP 20018 WO 99	007589 C1 232436 T 264199 A 811392 D1 811392 T2 932486 A2 523589 T 926764 A2 504986 B1	25-05-1999 15-02-2003 15-06-1999 20-03-2003 11-12-2003 06-09-2000 27-11-2001 03-06-1999 12-08-2003
US 5573446 A	12-11-1996	NONE		
US 5700181 A	23-12-1997	NONE		,
GB 865132 A	12-04-1961	NONE		
DE 10113599 A	02-10-2002	WO 026	113599 A1 974489 A1 109199 A1	02-10-2002 26-09-2002 21-04-2004
JP 05318287 A	03-12-1993	NONE		